

TOWARD A JOINT DISCIPLINARY VALIDATION OF SIGFLUENCE THROUGH MATHEMATICAL MODELING

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Abstract. We lack a word in the English language that means long-term interpersonal influence of one person toward another. This failing likely conditions us to be superficial in our thinking, consequently in our behavior. This is the reason that I have coined the term sigfluence to define positive, long-term, significant, impactful, interpersonal influence. Sigfluence was highlighted by the New York Times (August, 1984) as one of the neologisms that emerged from the 1984 International Conference on Thinking at Harvard University. Sigfluence should be considered distinct from a value, interest, or personality factor. This paper will present a brief review of the relevant statistical, psychological, and psychometric literature together with a reporting of the results of two preliminary statistical analyses of sigfluence, and will conclude with recommended research avenues for the 80s.

Keywords. Sigfluence; interpersonal influence; psychotherapy; fundamental wills.

INTRODUCTION

We lack a word in the English language that means long-term interpersonal influence of one person toward another. This failing likely conditions us to be superficial in our thinking, consequently in our behavior. For this reason, this author has coined the neologism "sigfluence" to define positive, long-term, significant, impactful, interpersonal influence.

The focal point of this article is the hypothesized existence in person of a fundamental will-for-long-term, significant, positive, impactful, interpersonal influence - sigfluence. Recent research supports the relation between language and thought. A study was completed by MacKay (1980) in which students sympathetic to women's liberation read otherwise identical paragraphs containing either the plural "they" or prescriptive "he". Female subjects had lower comprehension and personal relevance scores for the prescriptive "he" than for the plural paragraph. These findings suggested that a single word, the prescriptive "he", influenced attitudes and thought. Perhaps our weak social perception, noted by Gleitman (1983), is partially attributable to our linguistic lackings - society's failure to define a word to allow us to distinguish between trivial and long-term significant influence.

COMPARISON WITH ESTABLISHED CONSTRUCTS

What is sigfluence? Is it an illusion, perhaps a personality factor, a value, an interest, or (my hypothesis) a presently neglected fundamental will. If we contrast sigfluence with the altruist value in the Super Work Value Inventory (1970), we find that no notion of long-term significant influence characterizes the statements from which the altruism score emerges; sigfluence appears to be distinct from an "altruism" value.

In examining the Handbook of the Sixteen Personality Factor Questionnaire, the independent personality factor that came the closest was Factor G+. Cattel, Eber, and Tatuoka (1980) defined factor G+ as describing people who view themselves as guardians of manners and morals, conscientious,

guided by a sense of duty, and interested in analyzing people. Factor G+ does not equate with the notion of sigfluence since no mention of short-term, much less long-term interpersonal impact is part of the definition.

If we examine the Strong Campbell Interest Inventory (Strong and Campbell, 1982), the pure S-type, who is described as social, responsible, humanistic, and concerned for the welfare of others, parallels the construct of sigfluence. However, no connection is made between humanistic, concerned and positively impactful over time. Sigfluence appears to be distinct from the three aforementioned values, personality factors, or interests.

In reviewing the Viennese schools of psychotherapy (Freud, Adler, and Frankl), one may observe that Freud's emphasis is diametrically in opposition to a formulation that posits that a person has a fundamental will-to-sigfluence. Freud's fundamental will-to-pleasure neglects the notion of a person as having a sense of detachment from immediate pleasure in favor of effecting positive interpersonal influence.

Frankl's logotherapeutic approach hypothesizes that a person has a fundamental will-to-meaning. While this formulation is consonant with the spirit of sigfluence, Frankl's construct refers to myriad perspectives on what constitutes meaning.

Adler's concept of social interest is closely allied with one's interest in others according to Crandall (1981). This is different than a perception of aggregations of impactful influence that one has effected during one's lifetime - a perception of sigfluence.

My hypothesis would state that self-actualization is a function of the summation of discrete impactful influences that one has effected over one's lifetime. Let me summarize two research ventures that provide a modest beginning in the empirical examination of this suggested hypothesis.

SIGFLUENCE STUDY

This author computerized the results of two separate surveys related to the question of sigfluence, the first in the Spring of 1984 and the second during the Spring of 1985. The first study (19 subjects) will be referred to as Study I; the second (292 respondents) will be referred to as Study II. The results are as follows:

Study I

An undergraduate statistics class was given the following questionnaire to complete. The same questionnaire was administered two months later in an attempt to ascertain reliability measures.

The students were asked:

1. Who, outside of family, exerted the most significant long-term effect on your life?
2. Describe your age then, the occupation of the influencer. Did you tell the influencer of his effect? When did you know that you were influenced?
3. Rate from 1-10 the most desirable jobs from the following list:
4. Rank from 1-10 the jobs having the most long-term influence on your life.
5. Rate yourself along a continuum from 0-10 as to the perceived influence of non-familial people in your life.
6. How would you describe your early upbringing?
 - a) Permissive - little direction or structure
 - b) Strict
 - c) Other

Results

For the sample ($n = 19$), 85+% cited the same person as the most significant influence after a two month interval. Median age today was 21. Median age of the positive, impactive influence was 17. Only 47% of the sample told the influencer of the perceived influence. The description of the significant influencer included: friends (3), teacher-counselor (5), clergy (2), boss (2), secretary (1), senior citizen (1), and miscellaneous uncategorized (4). The correlation coefficients between the perception of desirability and perception of sigfluence of jobs were very high, .952 and .867. The reliability of the rankings of desirability and sigfluence of the jobs likewise were high - .732 and .691. The hypothesis that those raised in permissive familial settings will perceive more non-familial influence in their lives was upheld at a marginal level of statistical significance ($\alpha = .10$).

In perusing the results several salient insights emerged:

1. Many non-conventional influence people were cited including a senior citizen, secretary, and several friends.
2. Fewer than half of the respondents told the influencer of the perceived long-term impact.
3. People reliably report their rankings of significant influence.
4. There appears to be an optimum age for influence - fourteen to seventeen.
5. There appears to be a relationship between familial dynamics and perception of influence of significant others, i.e., people raised in permissive familial settings tend to report higher levels of (perceived) influence of non-family in their lives.

If we are correct in assuming that person has an inherent need for long-term influence, this need is apparently rarely satisfied. Fewer than half of the respondents told their most dramatic influencers of their perception of the impactive effect. The relationship between a job's perceived desirability and the perception of that job's influence on a person's life are dramatically high, suggesting that sigfluence is an important and presently overlooked attribute of job desirability. The perception of sigfluence appears to be a highly reliable construct since 85+% of the sample cited the same person as their most significant influencer after a two month interval.

Study II

In the more recent and comprehensive study (292 respondents), the average age of the perceived onset of the most impactful non-family influence was 18.201; the average age today was 33.454. The subjects required an average of 2.251 years to recognize the dramatic positive nature of the influence.

The best estimate of the number of years elapsing between the recognition of the impactful influence and the age today would be: $33.454 - (18.201 + 2.251) = 13.002$ years. Thirteen years is considerable length of time to evaluate positive interpersonal impact.

Validity of "Sigfluence"

More than 20,000 different occupations are listed in the Dictionary of Occupational Titles. In the study, each of the 292 students listed his/her occupation as well as the occupation of the impactful influencer. This author developed 52 mutually exclusive categories in which to fit the varieties of jobs listed. Sixty-four of the two hundred ninety-two subjects chose the identical occupation as the impactful influencer.

Let us examine the probability of such an event occurring by chance. Let us approximate the binomial probability with use of normal approximation.

Let $P = 1/52 =$ probability that occupational choice is independent of impactive influence (also assume that each occupation is equally likely; some were slightly more likely than 1/52, some slightly less).

$$\sigma_p = \frac{1/52(1-1/52)}{292} = .00803 \quad (1)$$

$$\hat{p} = \frac{64}{292} = .2191 \quad (2)$$

$$Z = \frac{\hat{p} - p}{\sigma_p} = 24.89 \quad (3)$$

This level of statistical significance is unheard of in the real world. One's choice of career appears to be clearly shaped by the positive, impactful influence of a "significant other". This statistic suggests the validity of the construct "sigfluence".

Unfortunately, the preceding does not prove the existence of sigfluence. One could legitimately conjecture that people, after embarking upon a career, perceive an impactive person linking them with their present occupational situation. The perception of sigfluence may be an "after the fact" association as opposed to a valid assessment of impactive influence. Consequently, we must establish the validity of the construct "sigfluence" through a divergent approach,

utilizing biographical material and interdisciplinary avenues.

Sigfluence Distribution

Let us examine a "sigfluence distribution". This distribution was determined by asking the 292 subjects the age (years, months) when they experienced the most significant, positive, long-term, impactful (non-family) interpersonal influence upon their lives.

The age (x) of the influence ranged $4.818 < x < 53.000$. The mean of the influence density was $\bar{x} = 18.201$ and the standard deviation was 8.080. The average current age of the 292 subjects was 33.454.

Attempts to fit the "sigfluence" distribution into two standard statistical distributions failed. The sigfluence distribution was found to not fit either Poisson or normal distributions.

We could test 20 different standard mathematical distributions for "goodness of fit". At the .05 level of statistical significance we could expect one of the hypothesized distributions to achieve a "good fit" to the sigfluence distribution.

On the other hand, perhaps there may be theoretical and practical advantages that accrue if we began to examine similar naturally occurring non-mathematical distributions. We may be able to develop models for describing such naturally occurring distributions - uses independent of assuming an underlying mathematical distribution.

Perhaps one of the reasons that there are so many problems in modelling psychological phenomena is that we are attempting to quantify interactive phenomena by utilizing very rigid assumptions including independence, normality, etc. We also are assuming that there exists a correspondence between very complex phenomena and standard mathematical distributions. The phenomena are not aware that they must conform to these mathematical formulae.

RESEARCH DIRECTIONS FOR THE 80s

1. Develop psychometric instruments similar to Crumbaugh and Maholick's PIL Test (1964) in order to validate the hypothesized existence in person of a fundamental will-for-sigfluence. (In progress by the author)
2. Develop discrete and continuous mathematical models appropriate to the study of sigfluence. (In progress by the author)
3. Empirically substantiate that person is self-actualized in relation to his/her perception of aggregations of positive impact that he/she has effected during one's lifetime.
4. Capture the relationship between "sigfluence" and "perception of sigfluence".
5. Let psychometrics, mathematics, psychology, education, theology, and philosophy forge a link between academia and the real world applications of sigfluence.
6. Analyze autobiographical accounts of people reflecting upon the key, positively impactful persons in their lives.
7. Study the effect that language has on our assessment of personal interaction - particularly potentially positive, significant interactions.

8. Examine the link between our weak social perception and our superficial assignment of status and esteem.
9. Explore the relationship between intelligence and perception of sigfluence. Do highly intelligent people have a different awareness of their will-to-sigfluence or different perception of the positive influence of others.
10. Explore the relationship between sigfluence, perception of sigfluence, and familial dynamics.
11. Develop new statistical tools, probability distributions, and innovative mathematical modelling approaches, appropriate to the study of sigfluence.
12. Attempt to relate the study of sigfluence to the century old question of neatly dichotomizing cognition and emotion.
13. Scrutinize the relationship between learning and perception of one's will-to-sigfluence and perception of other's positive influence.

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